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(54) **Modular assembly of antibody genes, antibodies prepared thereby and use.**

(57) cDNA genetic sequences, vehicles containing same as well as hosts transformed therewith, for the production of chimeric immunoglobulin molecules, functional fragments thereof and immunoglobulin derivatives exhibiting novel functional properties comprising human constant region modules and non-human variable region modules, or for class switching antibody molecules and/or chains.

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EUROPEAN SEARCH REPORT

Application Number

EP 93 10 0041

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	EP-A-0 125 023 (GENENTECH/CITY OF HOPE) 14 November 1984 * page 52 - page 58 * ---	8,9	C12N15/62 C12N15/13 C12P21/02
X	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA. vol. 81, June 1984, WASHINGTON US pages 3273 - 3277 CABILLY ET AL. 'Generation of antibody activity from immunoglobulin polypeptide chains produced in Escherichia coli' ---	6,7, 10-12	
A	WO-A-8 702 671 (INTERNATIONAL GENETINC ENGINEERING, INC) 7 May 1987 * page 70 * ---	1-13	
P,X	SCIENCE. vol. 240, 20 May 1988, LANCASTER, PA US pages 1041 - 1043 BETTER ET AL. 'Escherichia coli secretion of an active chimeric antibody fragment' * the whole document * -----	1-13	TECHNICAL FIELDS SEARCHED (Int. Cl.4) C12N C12P C07K
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21 JUNE 1993	Examiner CUPIDO M.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

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- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



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LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-5, 13

Chimeric immunoglobulin molecules linked to a procaryotic polypeptide secretion signal and polynucleotide molecules encoding said immunoglobulins.

2. Claims 6-12

Processes of preparing the Fd or Fab portion of an immunoglobulin and polynucleotide molecules to be used in these processes.